

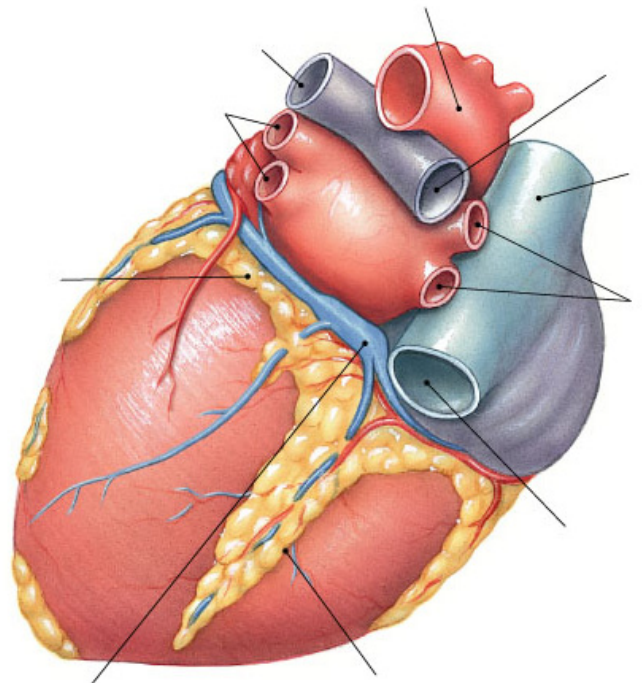
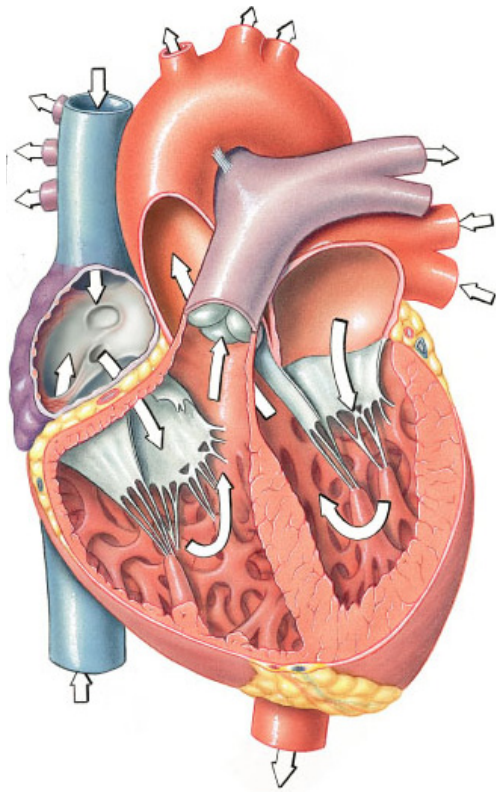
Lecture - Chapter 18 – The Heart

1. Why is the heart a double pump? What are the two circuits that distribute blood and what is their function?
2. What are the functions of the heart?
3. Which body cavity contains the heart?
4. What is the apex and base of the heart?
5. What is the pericardial sac, what tissues and layers make up this sac?
6. What are the three layers of the heart wall? What tissues make up each layer?
7. Describe the function of the atria and ventricles.
8. What is the interventricular and interatrial septa?
9. What is the function of the coronary sulcus, anterior and posterior interventricular sulcus, and where in the heart are they found?
10. Describe how blood flows through the heart. Begin at the inferior and superior vena cava. Include the chambers, valves and vessels (names of arteries, veins, and capillaries) that the blood goes through as well as the oxygen state of the blood along the path.
11. What is the function of the bicuspid and tricuspid valves, how does the chordae tendineae and papillary muscle aid in their function?
12. What is the function of the aortic semilunar valve (aortic valve) and the pulmonary semilunar valve (pulmonary valve)?
13. Define systole, and diastole. How is this related to systolic and diastolic pressure?
14. Describe the anatomical differences between the myocardium of the left ventricle vs. the right ventricle. What is the physiological significance of these differences?
15. What makes the heart sounds of Lub-Dub? What is the lub and what is the dub?
16. How many heart sounds do we have?
17. What is the function of the conduction system?
18. Describe the pathway of the conduction system starting at the sinoatrial (SA) node and ending with the Purkinje fibers. What chambers of the heart contract along the conducting pathway, and which structure sets the heart rate?
19. What is the typical heart rate?
20. How is the heart rate affected by the parasympathetic and sympathetic nervous system?
21. What is coronary circulation and what is the path of circulation from the aorta to the right atrium?
22. What is the function of an anastomosis?
23. Describe the following heart disorders
 - a. Atherosclerosis
 - b. Angina pectoris
 - c. Myocardial infarction
 - d. Silent ischemia
 - e. Heart failure
 - f. Congestive heart failure
 - g. Core pulmonale
 - h. Ventricular and atrial fibrillation
24. During fetal development, is there a need for the pulmonary circuit? How does the developing heart by-pass the lungs and what happens to these structures after the infant is born?

Label the following heart structures:

Left and Right ventricle
Left and Right Atria
Fossa ovalis
Tricuspid valve
Bicuspid valve
Left and right pulmonary veins and arteries
Pulmonary trunk
Aorta
Chordae tendineae

Inferior and superior vena cava
Aortic and pulmonary semilunar valve
Myocardium
Base
Apex
Interventricular septum
Coronary sinus
Auricle
Ligamentum arteriosum



Sample Exam Questions

TRUE/FALSE:

1. The apex of the heart is the superior wide portion of the heart
2. The auricle is not part of the atrium.
3. The epicardium is also termed the myocardium.
4. Closing of the semilunar valves produce the second heart sound in the heartbeat.

Multiple Choice.

5. This is associated with contraction of the heart.
 - A. Diastole
 - B. Systole
 - C. First heart sound
 - D. Second heart sound
 - E. None of these
6. Which of the following has oxygenated blood in it?
 - A. Pulmonary veins.
 - B. Pulmonary arteries.
 - C. Vena cava
 - D. Systemic veins
 - E. None of these.

Matching. Each answer may be used more than once.

- A. Right ventricle
 - B. Left ventricle
 - C. Right atrium
 - D. Left atrium
 - E. More than one of these
7. The coronary sinus empties into this.
 8. The fossa ovalis is found here.
 9. The pulmonary veins empty into this.
 10. The pulmonary arteries originate from this chamber.